Grit

A Look at Individual and Organizational Passion and Perseverance

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Human Dimension Capabilities Development Task Force
Capabilities Development Integration Directorate
Mission Command Center of Excellence (MC CoE)

Grit:

A Look at Individual and Organizational Passion and Perseverance

June, 2015

Primary Author:	William Hardy
Author's Editors:	Joseph Rodman
	Rob McClary, PhD.
Contract Team Lead:	Rob McClary, PhD.

Human Dimension Capabilities Development Task Force (HDCDTF)
Mission Command - Capabilities Development and Integration Directorate (CDID)
806 Harrison Drive Building 470,
Fort Leavenworth, KS 660627-2302
913-684-4521

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Executive Summary

As the US Army moves forward into an era of unpredictable missions, defined by complexity and ambiguity, it will require Soldiers and leaders that are made of the "right stuff" to accomplish a variety of missions. The Army has long acknowledged that certain behavioral attributes and personality traits are desirable among Soldiers and leaders. The behavioral attributes and personality traits required several decades ago while operating under the command philosophy of Battle Command, however, may not necessarily be the attributes and traits needed while operating under Mission Command.

In addition to recognizing that past attributes may be diminished or unnecessary in the future operating environment, the Army also recognizes the need to accurately identify, assess, and develop these attributes through training and education. Today, as it transitions to meet the threats of tomorrow while operating under the philosophy of Mission Command, the Army has an opportunity to take advantage of recent advances among the many fields of psychology, including personality assessment, positive psychology, applied psychology and psychophysiology, among others.

This paper focuses on Grit. Grit is recognized as a specific and desirable personality trait that has been identified as "passion and perseverance for long-term goals." While Grit is a fairly young construct (first developed and defined by Dr. Angela Duckworth in 2007), a number of studies identify it as an accurate predictor of consistency of interest, perseverance of effort, and goal achievement. Thus far, scholars have developed only two ways to measure Grit. One is a self-report tool, the other is an informant report tool. Research finds that Grit is a combination of nature and nurture, often increasing over time through experience.

In addition to discussing what scholars have discovered about Grit, this paper also investigates the role that superordinate goals play in Mission Command. Grit is the passion and perseverance towards a specific goal or superordinate goal. Subordinate goals and actions are all taken in order to achieve the superordinate goal. By using the concept of Grit and superordinate goals, three of the six principles of Mission Command (building cohesive teams through mutual trust, creating a shared understanding, and providing clear commanders intent) take on a new importance. Teams working towards a superordinate goal using Mission Command must trust that each member has the same superordinate goal based upon a shared understanding, and identified by clearly and concisely through the commander's intent.

As the Army moves towards developing customizable and scalable mission-oriented teams, it will need to develop a thorough understanding of the personalities and traits of individuals selected. Grit, while seen as a beneficial trait for achieving long term goals, has also been identified as having a potentially negative relationship with intelligence and skill. As more

interest within the military is placed upon putting the right individuals into the right job, it will become necessary to develop a further understanding of how different traits and attributes relate to each other, as well as their unique benefits and drawbacks.

This white paper also investigates Grit across organizational leadership transition. If Grit is the passion and perseverance of an individual towards a goal, it can be assumed that organizational Grit would be an organization's passion and perseverance towards goals as well. Within the Army, just as with the private sector, goals are identified by the individuals in leadership positions. The Army differs from the private sector in that leadership turnover is on a dependable and predictable calendar. When new leaders assume a position, they have a set amount of time to show why they are superior among their peers and deserving of the next promotion. This means that the goals of their predecessors may be abandoned in favor of promoting their own goals. This cycle may then be repeated every several years, as new leaders come and go, harming organizational continuity and making long-term goals nearly impossible to achieve unless each sucessive leader readily identifies with their predeccesors superordinate goals.

To address these concerns and also further the Army's research concerning Grit and other behavioral attributes, the Human Dimension Capabilities and Development Task Force makes the following reccommendations:

Immediate:

1) The first step towards identifying desired personality traits and behavioral attributes should be creating an operational definition for each that is informed by both academic and private sector research. For Grit specifically, the definition should include elements of passion, perseverance, and adaptability as precursors for achieving long-term goals.

2) The Army should investigate whether realistic virtual training is an effective means for providing Soldiers with the experiences needed to shape and develop individual and team Grit.

3) The Army should investigate whether developing a rating mechanism aimed at ensuring organizational continuity of goals through leadership transition, would be both feasible, and also provide an actual benefit to the organization as a whole.

Near-Term:

1) Investigate whether the inclusion of Grit into initiatives like the WholeSoldier Performance Test and the Tailored Adaptive Personality Assessment System (TAPAS) might improve Soldier assessments as well as applicant selection and classification during the recruiting process. Would including Grit among the factors of

concientiousness within the TAPAS test or replacing Stick-to-it-tiveness with Grit in the Whole Soldier assessment provide better predictive validity to each initiative?

2) The US Army should investigate whether Grit is a domain general personality trait or domain specific. If Grit is domain general, then improving Grit within an educational context should also improve an individuals operational Grit.
3) The US Army should also conduct research to examine whether Grit is specific to an individual, or if Grit can be transferred and influenced among groups of individuals. If so, then follow on research should identify whether certain roles within a team are better suited than others to influence the Grit levels of the entire team.
4) As the Army moves towards creating teams tailored for specific tasks aimed at accomplishing a diverse set of missions in the Operating Environment of 2025 and Beyond, it should identify a group of desired behavioral attributes that simultaneously align with the Army Values, the Philosophy of Mission Command, and the Army Profession. Each attribute should be easily and accurately assessed, and should have a clear path for development through training and education.

Introduction

"Perseverance is a principle that should be commendable in those who have judgment to govern it."
Mark Twain

Aesop's fable recounting the story of the tortoise and the hare has been retold for countless generations. With each new generation, the story changes to accommodate the social commentary of that age. Today it represents how passion and perseverance, better known as Grit, can overcome obstacles, and how complacence can hinder talent. Back in 1915, an epilogue was added which cautioned its readers on the assessment and management of talent. Edward Plunkett, an Irish Baron and novelist, told of a little known forest fire occuring after the race. Several woodland animals, including the tortoise and the hare noticed the fire. They gathered to decide whose responsibility it should be to warn the rest of the forest. Having just witnessed the tortoise beat the hair in a race, all of the animals agreed that the tortoise should be the one to warn the rest of the forest. This part of the story is relatively unknown due to the fact that the tortoise was unable to outpace the fire, and none of the woodland animals received a warning. While this version of the story does not change the fact that the tortoise did beat the hare in the original race, it does stress the necessity of both accurately assessing and managing talent.

Senior Army Leadership has highlited Grit as a trait that is desired in Army Soldiers and Leaders. The anticipated operating environment of the future, with all of its complexities and ambiguities, necessitates that individual Soldiers, as well as the Army as a whole, be Gritty.[1] Soldiers and leaders will need to be able to maintain their personal and organization related developmental goals, despite interuptions due to operational demands. As conflicts become more localized and diverse, the Army as an organization will need to set an organizational environment that allows its leaders to be Gritty and see their actions through, despite setbacks and delays. In addition to understanding individual Grit, the Army should also strive to understand how the organizational environment created within the Army either promotes or inhibits Grit among individuals, teams, and organizations.

This white paper will explore the following topics:

- What Grit is and how it compares to other similar facets of personality.
- Why Grit stands out from other facets of personality with regards to predicting long-term commitment to goals.
- How Grit is assessed/measured and potentially developed.
- Understanding superordinate goals and their relationship to Mission Command.
- Generalizing the personality trait of Grit across teams and organizations.

[1] Department of the Army, The U.S. Army Operating Concept: Win in a Complex World. TRADOC Pam 525-3-1, April 2008, iii.

Grit

Defining Grit

Grit is a personality trait, which has been defined as "passion and perseverance for long-term goals."[2] It entails maintaining effort towards, and interest in, a goal even if it takes years of overcoming failure, adversity and plateaus in progress. [3,4] Academics have broken Grit down into two sub-traits: passion and perseverance. Passion can be defined as "a strong inclination toward a self-defining activity that one loves, values, and in which one invests a substantial amount of time and energy."[5] Perseverance is defined as "to try to do or continue doing something in a determined way, despite difficulties."[6] In comparison to other personality or behavioral traits that have been rigorously studied, Grit is a fairly young concept with the majority of research occuring within the last decade.

Grit, as identified by Duckworth, Peterson, Matthews, and Kelly, is a narrow facet of the broader personality trait of Conscientiousness. Conscientiousness has been identifed as one of the five overarching personality traits known collectively as the Big Five Personality Traits.[7] The Big Five are made up of: Concientiousness, Neuroticism (aka Emotional Stability), Agreeableness, Openess to Experience, and Extraversion. Traditionally, the underlying facets of Conscientiousness have been described by such concepts as: achievement orientation, dependability, and orderliness. Descriptors for these concepts typically fall along the line of hardworking, persistence, responsible, careful, planful and organized. [8]

Duckworth et al., believe that Grit should be listed among the facets of Conscientiousness, especially with the conceptual overlap concerning achievement. However, Grit differs from the achievement aspects in its "emphasis on long-term stamina rather than short term intensity."[9] Duckworth et al., also believe that Grit differs from the dependability aspects, particularly self-control, in its "specification of consistent goals and interests." In their work, they believe they

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[2] Angela Duckworth, Christopher Peterson, Michael Matthews, and Dennis Kelly. "Grit: Perseverance and Passion for Long-Term Goals." Journal of Personality and Social Psychology 92, no. 6 (2007): 1087.
[3] Ibid., 1088.
[4] Lauren Eskreis-Winkler, Elizabeth P. Shulman, Scott A. Beal, and Angela L. Duckworth. "The Grit Effect: Predicting retention in the military, the workplace, school and marriage." *Frontiers in Psychology: Personality Science and Individual Differences* 5, no. 36. (2014): 2.
[5] Robert Vallerand. "On the Psychology of Passion: In search of what makes people's lives most worth living." *Canadian Psychology* 49, no. 1 (2007): 1.
[6] *Cambridge Dictionaries Online, s.v.* "Persevere," accessed May 27, 2015, http://dictionary.cambridge.org/us/dictionary/american-english/persevere?q=perseverance
[7] Murray Barrick, Michael Mount. "The Big Five Personality Dimensions and Job Performance: A Meta-Analysis." Personnel Psychology 44, no. 1 (1991): 4.
[8] Carol Dweck and Ellen Leggett. "A social cognitive approach to motivation and personality." *Psychological Review* 96, no. 2 (1988): 256-273.
[9] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1089.

have shown that Grit has a predictive validity beyond Conscientiousness concerning career commitment, educational attainment, and goal retention.[10]

One aspect of Grit that is implied in some research, but never included in the definition is the Gritty individuals ability to be adaptable when encountering set-backs that would stall progress towards a long term goal. Adaptability has been defined as the ability to change in response to an altered situation. [11] Grit without adaptability could be misconstrued as stubborness, with individuals continuing to work towards a goal in the same manner despite set-backs. Grit and adaptability will be discussed in more depth later in the paper.

The chart below highlights the definitions of similar traits and attributes and how they either differ or relate from Grit:

Trait/Attribute	Definition	Comparison
Grit	"Persverance and passion for long-term goals."[12]	
Perseverance	"To try to do or continue doing something in a determined way, despite difficulties."[13]	
Passion	"A strong inclination toward a self-defining activity that one loves, values, and in which one invests a substantial amount of time and energy." [14]	
Hardiness	"A pattern of attributes and skills that provides the courage and strategies to turn stressful circumstances from potential disasters into growth opportuniites instead. Hardiness is characterized by commitment, control, and challenge." [15]	Hardiness is Grit on the micro-scale, where perseverance is tested in specific circumstances Unlike Grit, Hardiness does not specify a time-frame, therefore it covers both the short-term and long-term. Hardiness is also characterized by enduring external circumstances rather than passion for a goal.
Adaptability	Adaptability is an effective change in response to an altered situation. [16,17,	Grit, by necessity must include a degree of adaptability. Otherwise Grit can become stubborness, highlighted by a lack of progress,

[10] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1091-93.
[11] Mueller-Hanson, Rose, Susan White, David Dorsey, and Elaine Pulakos. *Training Adaptable Leaders: Lessons from Research and Practice (Research Report 1844)*. U.S. Army Research Institute for the Behavioral and Social Sciences, 2005. 2.
[12] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1087.
[13] *Cambridge Dictionaries Online, s.v.* "Persevere," accessed May 27, 2015, http://dictionary.cambridge.org/us/dictionary/american-english/persevere?q=perseverance
[14] Vallerand, "On the Psychology of Passion," 1.
[15] Salvatore Maddi. "Relevance of Hardiness Assessment and Training to the Military Context." Military Psychology 19, no. 1 (2007): 61.
[16] Mueller-Hanson, Rose, Susan White, David Dorsey, and Elaine Pulakos. *Training Adaptable Leaders: Lessons from Research and Practice (Research Report 1844)*. U.S. Army Research Institute for the Behavioral and Social Sciences, 2005. 2.
[17] Department of the Army, ADRP 6-22: Army Leadership. September 2012. Within ADRP 6-22, adaptability is no longer a formerly defined term.

		rather than seeking new ways to progress towards a goal.
Resilience	The ability to adapt or "bounce back" following adversity and challenge, and connotes inner strength, competence, optimism, fliexibility, and the ability to cope effectively when faced with adversity. [18]	Gritty individuals display a degree of Resilience, due to their ability to bounce back from adversity. Resilience covers a wide array of possibilities. So it is possible to say that Gritty people are resilient, but resilient people may not necessarily be Gritty.
Self-Control	"The capacity to regulate attention, emotion, and behavior in the presence of temptation."[19]	Self-Control entails aligning actions with any valued goal despite momentarily more-alluring alternatives, whereas Grit entails working towards a superordinate goal over a long period of time.[20]
Ambition	"The persistent and generalized striving for success, attainment, and accomplishment."[21]	Where Grit is passion and perseverance towards a specific goal, Ambition is more generalized rather than compartmentalized like Grit.[22]
Moral Courage	The willingness to stand firm on your values, principles, and convictions — even when threatened.[23]	Gritty individuals are working towards an end goal, whereas moral courage entails values, principles, and convictions. Having moral courage may involve having Grit, but it is possible for an individual to be Gritty outside of the definition of moral courage.
Achievement Orientation	How an individual interprets and reacts to tasks, resulting in different patterns of cognition, affect and behavior. [24]	Grit differs from achievement orientation in that it emphasizes long-term stamina, while achievment orientation does not specify a variable for time.[25] Grit also does not entail the need for an incentive which has been identified with achievment orientation. [26, 27]

Figure 1: Diagram highlighting the similarities and differences between Grit and other traits and attributes.

Why is Grit Important?

As described earlier, Grit is believed to fall under the umbrella of Big Five Concientiousness. Earlier work investigating the Big Five Personality Traits found that Conscientiousness and its

[18] Gail Wagnild and Jeanette Collins. "Assessing Resilience." Journal of Psychosocial Nursing 47, no. 12 (2013): 29.
[19] Angela Duckworth, and James Gross. "Self-Control and Grit: Related but Separable Determinants of Success." Current Directions in Psychological Science 23, no. 5 (2014): 319.
[20] Ibid.
[21] Timothy Judge, John Kammeyer-Mueller. "On the Value of Aiming High: The Causes and Consequences of Ambition." Journal of Applied Psychology 97, no. 4 (2012): 759.
[22] Ibid.
[23] Definition taken from the Army Core Values Acronym LDRSHIP.
[24] Carol Dweck and Ellen Leggett. "A social cognitive approach to motivation and personality." *Psychological Review* 96, no. 2 (1988): 256-273.
[25] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1089.
[26] Ibid.
[27] David McClelland. "How Motives, Skills, and Values Determine What People Do." *American Psychologist* 40 (1985): 813.

underlying facets were better predictors of job performance and career success than the other four traits.[28,29]

Researchers have conducted multiple studies focused on populations in education, business, and the military that highlight why Grit stands out among the other facets of Concientiousness, particularly as it predicts task-completion and retention (cognitive retention? Job retention?) throughout a career.. In a study completed at Westpoint, Grit was found to more accurately predict whether Cadets would successfully complete the rigorous first summer of training, known as "Beast Barracks." Grit, as measured by the Grit Scale (which will be discussed later), outpreformed The Whole Candidate Score system, SAT score, Leadership Potential Score, and the Physical Aptitude Exam, in predicting whether a cadet would complete the summer training.[30,31] It is worth noting that Whole Candidate Score performed better than the Grit Measure at predicting cumulative GPA over the first year of class for the same population of Cadets.[32] In a second study, candidates of the Army Special Operations (ARSOF) Selection Course found to be one standard deviation higher in Grit than their peers were 32% more likely to successfully complete the course.[33] In this same study, Grit was also a better predictor of successful completion than both general intelligence and physical fitness. [34,35] Put plainly, if the US Army would like to screen for personality traits that promote job performance and success, it may find greater success by including Grit among the facets of Conscientiousness that it already assesses during the recruitment and selection process for current and future Soldiers.

Measuring Grit:

The key to developing Grit in individuals, as with any educational venture, is to first identify their baseline level of Grit for development. Because Grit, as a facet of personality, is fairly new to the research world, the number of ways to measure it in a valid manner is limited. Since 2007 when Duckworth et al. developed the concept of Grit, they have worked to develop an accurate self-report measure that is both efficient, and has predictive capabilities rather than just descriptive, as is associated with measures for perseverance. [36] The evolution of the

[28] Murray Barrick, Michael Mount. "The Big Five Personality Dimensions and Job Performance: A Meta-Analysis." Personnel Psychology 44, no. 1 (1991): 4.
[29] Timothy Judge, Chad Higgins, Carl Thoresen, and Murray Barrick. "The Big Five Personality Traits, General Mental Ability, and Career Success Across the Life Span." Personnel Psychology 52, no. 3 (1999): 624.
[30] Lawrence Hanser, and Mustafa Oguz, United States Service Academy Admissions: Selecting for success at the Military Academy / West Point and as an Officer. Santa Monica, CA: RAND Corporation. Accessed May 5, 2015. http://www.rand.org/pubs/research_reports/RR723.html
[31] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1095.
[32] Ibid., 1096.
[33] Eskreis-Winkler et al., "The Grit Effect," 2-3.
[34] Ibid.
[35] In both the USMA and ARSOF studies, it is important to note that the time frame for the research event is limited to three and seven week increments; which may not meet the definition of "long term goals," depending on how "long-term" is operationally defined.
[36] Angela Duckworth and Patrick Quinn. "Development and Validation of the Short Grit Scale (Grit-S)." *Journal of Personality Assessment* 91, 2 (2009): 166.

measure has taken it from the 12 question Grit Scale (Grit-O) to an 8 question Short Grit-Scale (Grit-S). [37] Grit-S was found to be internally consistent, with test-retest stability, and predictive in nature.[38]

The measure is made up of short statements that identify an individuals consistancy of interest and perseverance of effort. These statements are set on a five item Likert scale, with responses ranging from "very much like me," to "not like me at all." Respondents are asked to answer honestly, and reminded that there are no wrong answers. However, if Grit is to be used as a selection tool, this could lead to respondents providing the answer they believe to be the most desirable. The statements developed by Duckworth et. al for the Grit-S tool are below:

	12 item Grit Scale (Grit-O)	8 item Short Grit Scale (Grit-S)
Consistency of Interest	I often set a goal but later choose to pursue a different one.	I often set a goal but later choose to pursue a different one.
	New ideas and new projects sometimes distract me from previous ones.	New ideas and new projects sometimes distract me from previous ones.
	I become interestd in new pursuits every few months.	I have been obsessed with a certain idea or project for a short time but later lost interest.
	My interests change from year to year.	I have difficulty maintaining my focus on projects that take more than a few months to complete.
	I have been obsessed with a certain idea or project for a short time but later lost interest.	
	I have difficulty maintaining my focus on projects that take more than a few months to complete.	
Perseverance of Effort	I have achieved a goal that took years of work.	I finish whatever I begin.
	I have overcome setbacks to conquer an important challenge.	Setbacks don't discourage me.
	I finish whatever I begin.	I am a hard worker.
	Setbacks don't discourage me.	I am diligent.
	I am a hard worker.	
	I am diligent.	

Figure 2: Comparison of the items included in the Grit-O measure and the refined Grit-S measure.

While both the Grit-O and Grit-S measures have been shown to be effective, previous research using them have had several limitations. The first limitation is that both scales are self-report measures, therefore they are vulnerable to individuals anticipating future achievements and social desirability bias. [39] To work around the limitations related to self-report measures,

[37] Duckworth and Quinn. "Development and Validation of the Short Grit Scale (Grit-S)." 166.
[38] Ibid., 174.
[39] Ibid., 173.

Duckworth et. al. also developed an informant-report measure. This tool is identical to the self-report measure, except that all first person pronouns are replaced with gender-specific, third person pronouns.[40] This tool was shown to have a "medium to large" correlation with the self-report tool, which means that Grit, as defined by Duckworth and her associates, can be reliably assessed through informants.[41] By utilizing both the self-report measure and the informant-report measure, researchers can identify and limit when respondents may be less than honest.

The second limitation is whether respondents are actually invested in the identified goal during the assessment. This means that the Grit-S measure more accurately provides evidence for "objectively measured achievement outcomes rather than outcomes of subjective importance."[42] The third limitation worth noting, is that prior use of the Grit-S has been done in a non-domain specific manner. It is assumed that passion and peseverance for long term goals is fairly generalizable, but individuals may be Grittier towards one aspect of their life than another (ie. work vs hobby).[43] Future uses of the Grit-S measure may need to explore domain specific contexts.[44]

One criticism of measuring Grit in this way, is that the questions base future Grit upon past experience. Therefore, it may result in an unexperienced individual being labeled as non-Gritty, when in reality they may be full of Grit but have lacked the necessary experience of being challenged.

Developing Grit:

Grit can be both a product of nature and nurture for different individuals. Some people may be born with a degree of Grittiness, while others may learn to become Gritty through experience. Research has shown that, with all other variables held stable, Grittiness can increase over time through education and experience.[45] Therefore, individuals who are exposed to more experiences are typically found to have more Grit when being assessed using the Grit-O or Grit-S measures. When provided with an environment that promotes self-awareness, uses relatable examples, and increases opportunities for learning experiences, individuals may be able to actively increase their capacity for Grit.

Grit can be developed over time, but a key aspect of the definition of Grit is that it is perserverance despite failure and adversity. Therefore, in order to train/develop Grit, the Army must create opportunities for adversity in a safe, stable training environment. The Army must also develop a culture that embraces failure in training as a learning opportunity rather than

[40] Duckworth and Quinn. "Development and Validation of the Short Grit Scale (Grit-S)." 173.
[41] Ibid.
[42] Ibid.
[43] Ibid.
[44] Ibid., 174.
[45] Angela Duckworth, and Lauren Eskreis-Winkler. "True Grit." Observer (Association for Psychological Science) 26, no. 4 (2013): 1.

merely a failure. Realistic virtual training, paired with constructive developmental feedback, could potentially lead to the development of Grittier Soldiers. The ability to experience a scenario, learn from mistakes and then re-experience a similar scenario, all from an individuals home station, could systematically improve an inviduals Grit. However little research has been done investigating whether simulated trials and tribulations will have the same impact on the individual as actually experiencing them. Grit may be also be able to be developed by focusing on other related attributes, like resilience or hardiness.

Potential Drawbacks to Grit

Since Grit consists of passion and perseverance towards a long-term goal, it can come at a cost to decision making. Gritty individuals may be less willing to accept information that contradicts their beliefs, and may be susceptible to the sunk-cost fallacy.[46] Gritty individuals may also fail to see new opportunities as they develop because of their focus on the original goal. [47] To balance these potential drawbacks, individuals high in Grit should focus on developing an open-minded perspective and understanding their own decision-making biases, and team builders should strive for a balance between individuals high in different attributes.

Researchers have also noticed a potential trade-off between Grit and intelligence, as well as Grit and talent. In one study, focused on undergraduate students at an elite university, Grit was positively related to a higher GPA, but neutral or negatively related to higher SAT scores.[48] This phenomenon may indicate that the most intelligent individuals (i.e. highest SAT scores) did not have to work as hard to achieve the same results as their slightly less intelligent peers, which means they were either less Gritty or at least had yet to prove their Grittiness.[49] The same neutral or negative relationship is also present when studying the relationship between Grit and talent.[50] Silvia and colleagues also found that while Grit is tied to increased effort expended towards a specific goal, it is not directly related to overall task performance.[51] This finding is in line with Duckworth's belief that Grit may have a neutral or negative relationship to ability.[52]

In addition to being a potential hindrance to the individual, in the event that an individual's goals do not align with other individuals or the greater organizational goals, Grit can also create divisions among a population.

[46] Duckworth and Eskreis-Winkler. "True Grit" 2.
[47] Ibid.
[48] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1093.
[49] Ibid., 1098.
[50] Duckworth and Eskreis-Winkler. "True Grit" 1.
[51] Silvia et al., "Gritty People Try Harder," 203.
[52] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1099.

Superordinate Goals

A key aspect of Grit is the focus on a specific superordinate goal. For Gritty individuals, the actions they take are done in order to achieve a purpose or goal. Figure 4 models how individuals actions are taken in order to achieve a subordinate goal, which in turn is a step towards a superordinate goal. A superordinate goal is an overarching goal, that has subordinate goals that feed into its attainment.[53] For example, if an individual has set the superordinate goal of completing a triathlon, then the subordinate goals that lead to to its attainment might be: eating a healthy diet, maintaining a fitness regime in each discipline over an extended period of time, and so forth. Beneath each of those goals may be another set of subordinate goals, and the actions needed to achieve these goals.[54] For an individual to show Grit and pursue a goal over the long term, they need to have a degree of self-awareness and be willing to assess and re-assess their progress towards that goal. Gritty individuals are able to focus on an overall, or superordinate, goal while changing and adapting their subordinate goals to meet developing situations and changing environments.[55] To articulate how Gritty individuals work towards a superordinate goal, Duckworth and Gross developed a hierarchy of goals model that will be shown in diagrams throughout this section.[56]

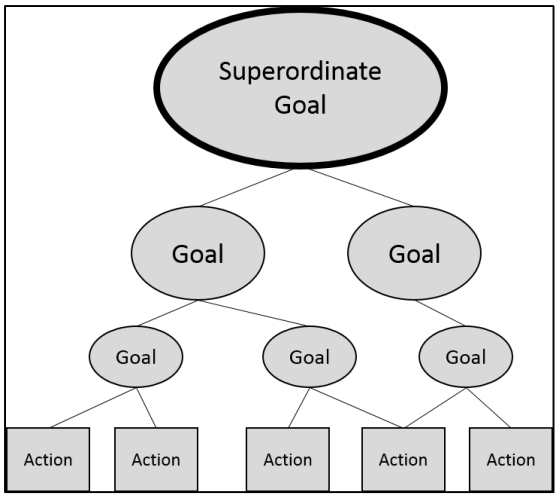

Figure 3: Framework showing how actions lead to subordinate goals, which eventually lead to superordinate goals.

An individual may have multiple superordinate goals presented to them through different contexts like work and pleasure. The deciding factor between which superordinate goal an individual works towards in a Gritty manner is typically passion.[57] To continue

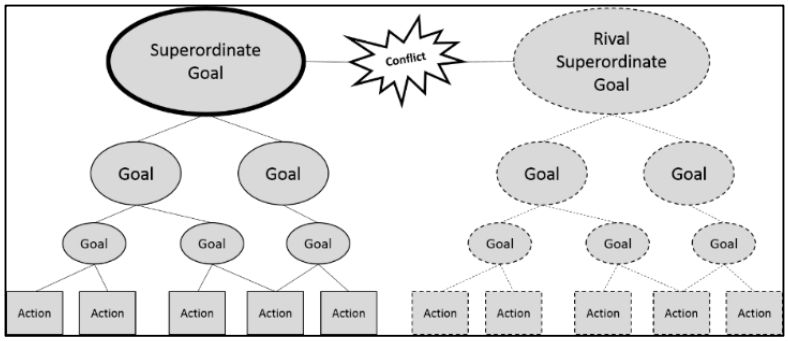

Figure 4: Diagram depicting how rival superordinate goals are given precedence based on passion.

[53] Duckworth and Gross, "Self-Control and Grit: Related but Separable Determinants of Success." 321-322.
[54] Ibid., 322.
[55] Angela Duckworth, and James Gross. "Self-Control and Grit: Related but Separable Determinants of Success." *Current Directions in Psychological* Science 23, no. 5 (2014): 319.
[56] Duckworth and Gross, "Self-Control and Grit: Related but Separable Determinants of Success." 319.
[57] Ibid., 322.

with the triathlon example, participating in the event may be one goal, but finishing a project at work may be another goal, as well as travelling or furthering one's education. In a perfect world, we would be able to dedicate our resources to accomplishing each goal, however with limited resources like time, we must choose which goals to pursue and which to postpone. Researchers point to both passion and necessity as being two of the factors that may influence the decision to focus on one superordinate goal rather than another.[58] If completing a triathlon is something an individual is passionate about, then he or she will dedicate more of their personal resources towards this goal at the expense of other goals like work, or travel.[59]

Figure 6 highlights how Gritty individuals also need to have a degree of adaptability in order to continue to pursue superordinate goals despite set-backs.[60] As mentioned earlier, adaptability is not specifically mentioned as part of the definition of Grit, but it is implied. Otherwise a Gritty individual could experience a set-back and continue to encounter that same set-back over and over again due to stubbornness, and a lack of adaptability.[61] What differentiates a Gritty individual from others is their response to the setback. Instead of conceding their superordinate goal as a failure, a Gritty individual will create a new subordinate goal, with subsequent actions, in order to work around the setback and progress towards their superordinate goal.[62]

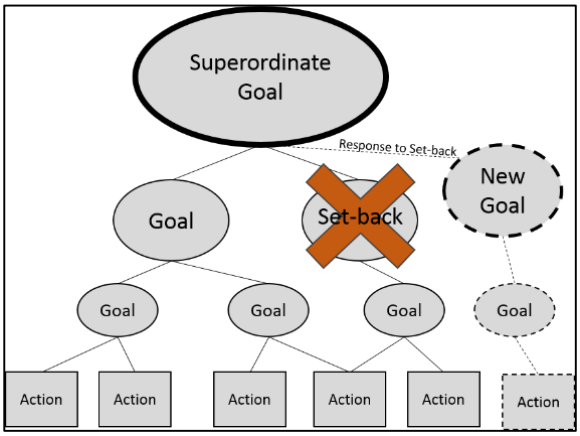

Figure 5: Diagram depicting how Gritty individuals develop new goals in response to setbacks rather than giving up.

Grit, Goals, and Mission Command

During this investigation, we uncovered little research that focused specifically on the topic of organizational Grit. Using a bit of personification, we can make the assumption that organizational Grit mirrors aspects of the personality trait of Grit. Therefore, a Gritty organization may be one that shows passion and perseverance for long-term goals despite failure, setbacks, plateaus *and* turnover in leadership and membership. Work by Aube and Rousseau has found that team goal commitment is positively linked to three factors of team

[58] Duckworth and Gross, "Self-Control and Grit: Related but Separable Determinants of Success." 320
[59] Ibid., 322.
[60] Ibid.
[61] Ibid.
[62] Ibid.

effectiveness: team performance, quality of group experience, and team viability. [63,64] Organizations seeking Grit among their members should not only strive to identify individual Grit, but they should also seek to set an environment that promotes Grit among its members and teams. Just as Grit among individuals should be balanced with other traits, Grit at the organizational and team level may also need to balance in order to ensure flexibility, adaptability, and to allow for innovation.

The concept of superordinate goals ties directly into several of the core principles of Mission Command. The six core principles of Mission Command are:

1) Build cohesive teams through mutual trust
2) Create shared understanding
3) Provide clear commander's intent
4) Exercise disciplined initiative
5) Use mission orders
6) Accept prudent risk [65]

Principles 1, 2, and 3 all relate to Grit and the concept of superordinate goals in one form or another. Cohesive teams built on mutual trust are created when each member of the team has a shared understanding of the environment and the superordinate goal of a particular mission. When taking Gritty individuals, and putting them together into Gritty teams, these principles of Mission Command become even more important for ensuring that all team members are working towards the same superordinate goals. Grit in a team setting is a delicate balance, requiring leaders to designate their intent while understanding the superordinate goals of their subordinates, and subordinates to shape their superordinate goals to align with the shared understanding of their leadership. In the end, Mission Command is dependent upon collective felt trust. Subordinates must trust that their commanders are making proper decisions, without unnecessary risk; and commanders must trust that their subordinates have aligned their superordinate goal, and Grit, with the mission.

Creating Teams

In addition to ensuring that a team's collective superordinate goals align through Mission Command, organizations seeking to promote and utilize Grit should pay careful attention to how they build their teams. Because research has shown Grit to have a potentially neutral or negative relationship with ability and intelligence, the Army should strive to identify and

[63] Caroline Aube, and Vincent Rousseau. "Team Goal Commitment and Team Effectiveness: The Role of Task Interdependence and Supportive Behaviors." Group Dynamics: Theory, Research, and Practice 9, no. 3 (2005): 200-1.
[64] Ibid., 191.
[65] Department of the Army, ADP 6-0: Mission Command. March 2014. 2.

understand the personal attributes each of its Soldiers have when developing teams for specific tasks.[66] Army teams with individuals high in Grit may also need to include individuals highly adaptive, or resourceful.

For an anecdotal example we can look to former NBA star Muggsy Bogues. Muggsy Bogues is arguably one of the Grittiest players ever to play in the National Basketball Association (NBA).[67] While he was incredibly talented on the court, he lacked one attribute seen by many as necessary for success in the NBA. He had to overcome the challenge of playing basketball while standing only 5'3" tall. A team full of Muggsy Bogues's might be the Grittiest NBA team to ever take the court, but they would likely struggle to win games. Bogues's Grit needed support from the height of Manute Bol while with the Washington Bullets, and the strength of Larry Johnson during his time with the Charlotte Hornets in order to compete at that level. This example highlights the need to understand the environment in which a team must perform, as well as the need to understand the attributes that the members of a team bring to the table.

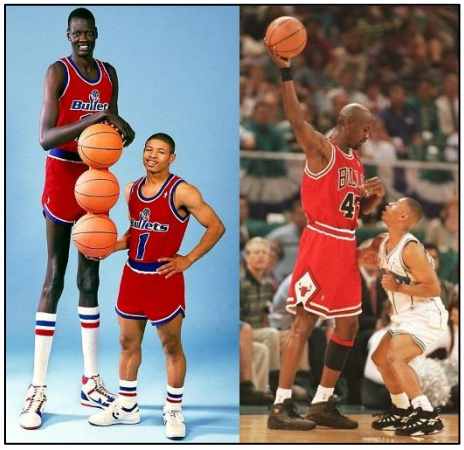

Figure 6: Set of pictures showing Muggsy Bogues's height in comparison to Manute Bol (left) and Michael Jordan (right).

Just as Muggsey needed teammates with other attributes, individuals high in Grit may need teammates that have attributes in other areas. This raises a question though: if Grit has a negative relationship with other attributes, is it possible to blend the members of a team to include high levels of each attribute? If so, can individual Grit be influenced by team members? Can an extremely Gritty Platoon Sergeant make his entire platoon more Gritty just by being in a leadership position? If Grit is found to have a social aspect in addition to being a facet of personality, then the Army should focus research on identifying which role/billet in a team is best suited to influence the Grit of the entire team. Would a Platoon Leader be better as the center of gravity for Grit or the Platoon Sergeant? By answering these questions, the Army can begin to develop a blueprint for team selection as well as individual placement as it moves towards the Operating Environment of 2025 and Beyond, and future operational units become increasingly specialized, both materially and cognitively.

Maintaining Organizational Grit through Leadership Transition

[66] Duckworth et al., "Grit: Perseverance and Passion for Long Term Goals," 1093.
[67] National Public Radio, "No Small Feat: The NBA's Shortest Player Never Gave Up." *All Things Considered*, October 25, 2014, http://www.npr.org/2014/10/25/358358540/the-nbas-shortest-player-never-gave-up (accessed June 1, 2015)

One aspect of organizational Grit that is important is the concept of transition between leadership. In the business world, leadership turnover happens either because someone is fired, promoted, or retired. When an individual in a leadership position is fired, it is inherent that the individual's replacement must make changes in order to succeed. When leadership is promoted, it would behoove the next leader to continue the progress made by their predecessor for two reasons: first, it is proven, and second the predecessor may still have organizational oversight. When leadership retires, the successor's actions are more dependent upon unique circumstances. In the Army, leadership can be promoted, fired or retire just as in the business world. More often than not leadership turnover is on a rotational schedule. Individuals in unit and organization leadership positions begin day 1 with the knowledge that they have a set amount of time to show results and "succeed" in that role. Success is dependent upon what the individual deems as their superordinate goal, but for many it may include setting themselves apart from the peers, whom they are in competition with for promotion. From the instant they take on responsibility, the clock is ticking for them to prove that they are worthy for the next echelon of responsibility.

Organizational turnover, particularly leadership turnover can be a major factor in whether an organization maintains its goals over time or changes direction. Individuals in leadership positions who assume command over an organization must be able to balance the need to maintain organizational goals, with their need to achieve personal success in order to maintain their next promotion. This is true of both individual turnover through change of command, and organizational turnover through a relief in place/transfer of authority. If superordinate goals shift during transition, it may only take a few transitions before the previous goals are completely gone.

Instability of Organizational Goals through Transition
Superordinate Goal (Leader A)
Superordinate Goal (Leader B)
Superordinate Goal (Leader C)
Transition of Leadership and Superordinate Goals over time

Figure 7: Depiction of the shift in organizational goals over time, when new leaders are not accountable to uphold or continue the organizational goals of their predecessors.

Individuals are inclined to make their mark, and often times that comes at the detriment to the mark made by their predecessor. How many times have you heard a staff say that the previous unit in control of an area of operations was "all messed up," or a commander make the decisions that "things will change around here," shortly after taking command? The nature of how the Army works makes turnover and transition a necessity, and oftentimes that turnover can come at the detriment to the overall mission. Everyone has likely heard some form of the familiar anecdote of the Afghan civilian who has witnessed ten different units, fight ten

different wars, in ten different ways. Whether this anecdote is the work of fiction or not, it carries certain truths as well as implications concerning the organizational Grit during those wars.

One potential method for promoting organizational Grit is to create a rating mechanism that influences organizational leaders to uphold their predecessor's initiatives as long as they continue provide a benefit, as well as develop their own initiatives. This could potentially have several benefits; first leaders would learn from their predecessors, developing a more in depth situational awareness and learning from both their successes and failures. Second, this would promote a continuum for enduring members of an organization rather than forcing them to reinvent the wheel with each new leader.

Figure 8: Depiction of how a rating mechanism could hold leaders accountable for continuing the work of their predecessors, and promote organizational Grit.

Current Army Initiatives

WholeSoldier Performance Initiative

Grit is not among those 56 attributes; however, there are several which potentially fall under the Conscientiousness Trait and may be directly related to Grit. Within WholeSoldier's Moral Domain, the subsets of Purpose and Motivation contain attributes that are comparable to Grit. These subsets and their attributes lack academic definitions, with the creators of WholeSoldier preferring to use operational definitions that are "readily understood by those in the operational force who are called to lead and assess the performance of Soldiers."[68] The attributes within the Purpose and Motivation subsets that may be related to Grit, depending on their operational understanding, are: Commitment, Endurance, Resilience, Stick-to-it-iveness, and determination. Data within the WholeSoldier Initiative is collected by using subjective self-report measures, as well as informant report measures.[69]

[68] Rob Dees, Scott Nestler, Rob Kewley, Kelly Ward "WholeSoldier Performance: A Value Focused Model of Soldier Quality." (Presented at the 77th Military Operations Research Society Symposium, December 7th, 2006): 11.
[69] Ibid., 16.

Tailored Adaptive Assessment System

The Tailored Adaptive Assessment System (TAPAS) is a personality assessment designed and developed in order to aid in the selection and classification of applicants prior to joining the military.[70] The TAPAS is a supplement the Armed Services Vocational Assessment Battery (ASVAB) in the selection of potential applicants. The TAPAS test is administered to applicants while at Military Enlistment Processing Stations during the recruitment process in the same manner as the ASVAB. TAPAS is based on assessing 22 subsets of the Big Five Personality traits.[71] This includes the underlying facets of Conscientiousness: Industriousness, order, self-control, traditionalism, social responsibility, and virtue. While the TAPAS does not include Grit among the facets that it measures, the facets that are measured are closely related.

Conclusion and Recommendations

As the Army continues to conduct research and invest resources into the Human Dimension, Grit will continue to be a personality trait of interest for leaders and decision makers. While the body of research conducted on Grit is limited, it clearly identifies Grit as a personality trait that is postively related to persistance of effort and goal attainment. What is not clear is the relationship between Grit and other personality traits or Grit and talent. Some research suggests that there may potentially be a negative relationship between Grit and intelligence, and also between Grit and talent. This needs to be investigated further in order to identify whether the claim is valid, as well as whether there are other factors that may alter the relationship. If the claim is valid, it could mean that promoting Grit comes at a cost to achieving cognitive dominance.

As this paper shows, Grit is an important construct. The total body of research concerning Grit, however, is still relatively small and may require further attention in order to fully comprehend the consequences that accompany having it. The operating environment of the future may necessitate that Soldiers and leaders have Grit in both a developmental capacity as well as an operational one. By investing in research concerning desired personality traits and behavioral attributes now, the Army can begin to shape the Soldiers of the future.

The HDCDTF makes the following recommendations in order to develop a better understanding of the role Grit plays in both the lives of individual Soldiers, as well as in organizations:

Immediate:

[70] Fritz Drasgow, Stephen Stark, Oleksandr Chernyshenko, Christopher Nye, Charles Hulin, and Leonard White. "Development of the Tailored Adaptive Personality Assessment System (TAPAS) to Support Army Selection and Classification Decisions." United States Army Research Institute for the Behavioral and Social Sciences, 2012, 1-2.
[71] Ibid.

1) The first step towards identifying desired personality traits and behavioral attributes should be creating an operational definition for each that is informed by both academic and private sector research. For Grit specifically, the definition should include elements of passion, perseverance, and adaptability as precursors for achieving long-term goals.

2) The Army should investigate whether realistic virtual training is an effective means for providing Soldiers with the experiences needed to shape and develop individual and team Grit.

3) The Army should investigate whether developing a rating mechanism aimed at ensuring organizational continuity of goals through leadership transition, would be both feasible, and also provide an actual benefit to the organization as a whole.

Near-Term:

1) Investigate whether the inclusion of Grit into initiatives like the WholeSoldier Performance Test and the Tailored Adaptive Personality Assessment System (TAPAS) might improve Soldier assessments as well as applicant selection and classification during the recruiting process. Would including Grit among the factors of concientiousness within the TAPAS test or replacing Stick-to-it-tiveness with Grit in the Whole Soldier assessment provide better predictive validity to each initiative?
2) The US Army should investigate whether Grit is a domain general personality trait or domain specific. If Grit is domain general, then improving Grit within an educational context should also improve an individuals operational Grit.
3) The US Army should also conduct research to examine whether Grit is specific to an individual, or if Grit can be transferred and influenced among groups of individuals. If so, then follow on research should identify whether certain roles within a team are better suited than others to influence the Grit levels of the entire team.
4) As the Army moves towards creating teams tailored for specific tasks aimed at accomplishing a diverse set of missions in the Operating Environment of 2025 and Beyond, it should identify a group of desired behavioral attributes that simultaneously align with the Army Values, the Philosophy of Mission Command, and the Army Profession. Each attribute should be easily and accurately assessed, and should have a clear path for development through training and education.

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